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(54) Electroplated steel sheet having a plurality of coatings, excellent in workability, corrosion resistance and water-resistant paint adhesivity.

(57) An electroplated steel sheet having a plurality of coatings, excellent in workability, corrosion resistance and water-resistant paint adhesivity, which comprises:

an iron-chromium-zinc alloy coating as a lower layer, having a coating weight of from 0.1 to 40 g/m<sup>2</sup> per side, formed on the surface of a steel sheet, consisting essentially of:

iron : from 3 to under 15 wt.%,

chromium : from 0.1 to 1 wt.%, and

the balance being zinc and incidental impurities;

another iron-chromium-zinc alloy coating as an intermediate layer, having a coating weight of from 20 to

59.9 g/m<sup>2</sup> per side, formed on the iron-chromium-zinc alloy coating as the lower layer, consisting essentially of:

iron : from 10 to 40 wt.%,

chromium : from over 1 to under 30 wt.%,

and

the balance being zinc and incidental impurities;

and a chromating coating as an upper layer, formed on the another iron-chromium-zinc alloy coating as the intermediate layer, which comprises a metallic chromium film and a hydrated chromium oxide film, each having a coating weight of at least 5 mg/m<sup>2</sup> per side.



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EUROPEAN SEARCH  
REPORT

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EP 90 11 0815

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A,D	EP-A-0 285 931 (NIPPON STEEL CORP.) -----		C 25 D 5/10 C 25 D 3/56 C 25 D 11/38
A	GB-A-2 193 973 (NIPPON STEEL CORP.) -----		
TECHNICAL FIELDS SEARCHED (Int. Cl.5)			
C 25 D			

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	10 December 90	VAN LEEUWEN R.H.
CATEGORY OF CITED DOCUMENTS		
X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention	E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document	